

ABSTRACT

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An illumination system for a microlithographic projection exposure apparatus includes a light source (12) for generating a projection light beam, a first objective (20) and a masking system (38, 52) for masking a reticle (30). The masking system (38, 52) includes adjustable first blades (40) for masking in a first spatial direction (X) and adjustable second blades (54, 56) for masking in a second spatial direction (Y). The first blades (40) are arranged in the region of a first field plane (36) and the second blades (54, 56) are arranged in the region of a second field plane (44) which is different to the first field plane (36). The masking system can therefore be made spatially less concentrated, whereby constructional difficulties in the region of the field plane before the masking objective resulting from space requirement problems are reduced. A further contribution is made to solving the space requirement problem if an attenuation system for achieving the most uniform possible light intensity in the wafer plane (122) includes a transmission filter (162) which has locally varying transmissivity and can be moved synchronously with traversing movements of the reticle (30).

(Figure 1)